Editor's note: Appealed --Civ.No. 90-0002-EJG-JFM (ED Calif. Jan. 2, 1990); settled Oct. 29, 1991

UNITED STATES

v.

JOSEPH LACZKOWSKI

IBLA 86-920 Decided October 6, 1989

Appeal from a decision by Administrative Law Judge John R. Rampton, Jr., declaring the Evergreen placer mining claim (CA MC 29004) null and void for lack of discovery. Contest No. CA 8591.

Affirmed.

1. Mining Claims: Determination of Validity--Mining Claims: Discovery: Generally

In order to establish a discovery, there must be exposed within the limits of a claim a mineral deposit of such quality and quantity that a person of ordinary prudence would be justified in the further expenditure of his labor and means with a reasonable prospect of success in developing a valuable mine. This standard has been supplemented by the marketability test, requiring a showing that the mineral deposit can be mined, removed, and marketed at a profit. Where the evidence in the record fails to establish that gold and silver can be recovered from placer gravels using either a backhoe and trommel or suction dredges in such a manner that the value of the recovered metals will exceed reasonable anticipated costs of removal, no discovery has been established.

APPEARANCES: Joseph Laczkowski, pro se; Arno Reifenberg, Esq., Office of the General Counsel, U.S. Department of Agriculture, Portland, Oregon, for the Forest Service.

OPINION BY ADMINISTRATIVE JUDGE HUGHES

Joseph Laczkowski has appealed from the February 14, 1986, decision of Administrative Law Judge John R. Rampton, Jr., holding the Evergreen placer mining claim null and void for lack of discovery.

This is the second time this matter has been before this Board. At the request of the Forest Service (FS), U.S. Department of Agriculture, in January 1981, the California State Office, Bureau of Land Management (BLM), initiated a contest against the Evergreen claim, charging that it lacked minerals of a variety subject to the mining laws, sufficient in quantity, quality, and value to constitute a discovery. Laczkowski filed an answer to the complaint, and a hearing was convened before Administrative Law Judge E. Kendall Clarke on June 10, 1981, in Medford, Oregon. Based on the evidence submitted at this hearing, on July 8, 1982, Judge Clarke issued a decision holding that the allegations in the complaint had been sustained and declaring the Evergreen claim null and void for lack of discovery.

Laczkowski appealed to this Board, and, on March 28, 1983, we affirmed Judge Clarke's decision in part, but set it aside and remanded to take further evidence. United States v. Laczkowski, 71 IBLA 364 (1983). Specifically, we held that the Government had established a prima facie case of lack of discovery, and that Laczkowski's evidence presented at the hearing had been inadequate to meet his burden of proving discovery. However, we noted both that Laczkowski had included information with his statement of reasons alleging facts that, if proven, might establish that he had a discovery, and that other claims in the vicinity of Laczkowski's had recently been patented. Accordingly, we deemed it appropriate to reopen the record to allow Laczkowski the opportunity to establish the facts alleged in his affidavit, and we remanded the matter to the Hearings Division in order to take further evidence. We also directed that the heirs of Eula G. Jones (Montney), a former co-owner of the Evergreen claim, be joined in the proceeding.

Following our decision, BLM prepared an amended contest complaint and served it on both Laczkowski and the heirs of Eula G. Jones (Montney). 1/ Only Laczkowski filed an answer to the amended complaint.

Upon remand to the Hearings Division, Laczkowski was afforded not one, but three additional opportunities to establish facts establishing the validity of his claims. Three separate additional hearing sessions were convened before Judge Clarke in Medford, Oregon, on April 26 and 27, 1984, August 2, 1984, and May 15, 1985. Judge Clarke went beyond the terms of the Board's decision (which provided only that Laczkowski be allowed to prove the facts set out in his affidavit to the Board) and generally reopened the record. Although we had held that the Government had estab-lished its prima facie case of lack of discovery, it presented additional evidence at these hearings concerning further examinations of the claim undertaken following issuance of our decision. The scope of review on remand was further expanded when the parties agreed at the hearing session in August 1984 to engage in a joint examination of the minerals on the claim. This joint examination was undertaken prior to the May 1985 hearing session.

1/ Geraldine Louise Patterson and William Gallaway were served on Mar. 1 and Mar. 3, 1984, as the heirs of Eula G. Jones (Montney). The record contains evidence showing that Patterson and Gallaway were Jones' heirs (Exh. 13).

In September 1985, before the parties had completed submission of post-hearing briefs, the matter was transferred from Judge Clarke to Judge Rampton. 2/ On February 14, 1986, following completion of briefing, Judge Rampton issued his decision once again declaring the Evergreen claim null and void for lack of discovery. 3/

In his decision, Judge Rampton noted that Laczkowski had chosen to base his case on allegations of error and deliberate fraud on the part of the Government mineral examiner in examinations of the claim that were undertaken in September 1983 and again in August 1984. Judge Rampton rejected allegations of fraud by the Government examiner in preparing samples and, citing "reliable evidence" provided by the Government, held that the Government had shown that operating costs of mining the gravel on the claim exceeded the value of the mineral obtained, and that this finding stood "unrebutted and unchallenged." Accordingly, he declared the claim null and void for lack of discovery.

As an initial matter, we note the interests of Eula G. Jones (Montney) in the Evergreen placer claim have been quitclaimed from William Gallaway and Geraldine Patterson, Montney's heirs, to Laczkowski, so that he evi-dently now owns full title to the Evergreen placer claim (Exhs. D and E). Laczkowski, as the sole interest holder in the claim, may pursue litiga-tion to determine its validity. Thus, our concerns in United States v. Laczkowski, 71 IBLA at 366, have been satisfied.

[1] The Evergreen placer claim is situated on Elliott Creek within the Rogue River National Forest, in Siskiyou County, California, in an area that was previously mined during the late 19th century (Exh. C at 2). There is no dispute that gold and silver can be found on the claim or that Laczkowski has recovered gold from the claim, both from gravels located within Elliott Creek and from gravel bars adjacent to and above the creek bed.

Since gold and silver, which are locatable minerals, were found on the claim, the issue presented is whether these minerals constitute a "discovery" within the meaning of the Mining Law of 1872. Under time-honored judicial and Departmental precedent, in order to establish a discovery, there must be exposed within the limits of a claim a mineral deposit of such quality and quantity that a person of ordinary prudence would be justified in the further expenditure of his labor and means with a reasonable prospect of success in developing a valuable mine. Castle v. Womble, 19 L.D. 455 (1894), approved in Chrisman v. Miller, 197 U.S. 313, 322 (1905); Cameron v. United States, 252 U.S. 450, 459 (1920). In United States v. Coleman, 390 U.S. 599, 602 (1968), the Supreme Court noted:

> Under the mining laws Congress has made public lands avail-able to people for the purpose of mining valuable mineral deposits and not

2/ The transfer was necessitated by the retirement of Judge Clarke from the Federal service.
3/ Judge Rampton's decision also denied Laczkowski's request that a fourth hearing session be convened.

> for other purposes. The obvious intent was to reward and encour-age the discovery of minerals that are valuable in an economic sense. Minerals which no prudent man will extract because there is no demand for them at a price higher than the cost of extrac-tion and transportation are hardly economically valuable.

Thus, the issue here is whether the claim contains a mineral deposit of sufficient quality and quantity that a person of ordinary prudence can reasonably expect that by the further expenditure of his time and means he will be able to extract that mineral and realize a profit. In order to answer this question, one must ascertain the value of the mineral found on the claim, the cost of removing it, and the reasonably expected return from its sale.

MINERAL VALUES FOUND ON THE CLAIM

The record of this proceeding demonstrates that the Government has examined the Evergreen placer claim on two occasions and tested six separate mineral samples from the gravel deposits found there. Additionally, four "joint samples," discussed separately below, were taken by Government mineral examiners and Laczkowski on two other occasions.

The Government's Mineral Samples

On October 23, 1979, Inspector Paul F. Boswell examined the claim, taking three samples from two locations designated by Laczkowski. Two samples (Evergreen Nos. 1 and 3), each 1/4 cubic yard in volume, were dug with a backhoe from gravels located within the streambed. A third sample of one cubic yard (Evergreen No. 2) was taken from these stream gravels during Boswell's inspection by Laczkowski using his 4-inch suction dredge. The Evergreen No. 2 sample, which showed comparatively high values, was taken with the dredge from the bottom of the hole excavated by the backhoe for the Evergreen No. 1 sample (Tr. I-17; Exh. C). On September 21 and 22, 1983, Inspector Gordon R. Lyda examined the claim and sampled two points designated by Laczkowski. One sample (83-003) of 1/4 cubic yard was taken from a gravel bench (Bench "B") located adjacent to and above the stream. The second sample (83-004) was taken from gravels within the streambed (Exh. 12). The results of these samples are set out below in tabular form.

Joint Sampling

The Evergreen Nos. 1 through 3 samples taken in 1979 can be considered joint samples, having been taken by Laczkowski during Boswell's inspection. Additionally, at the hearing session on August 2, 1984, the parties entered into an agreement to conduct joint testing of the gravels at the Evergreen claim (Tr. III-75 through III-83). Gravel deposits both inside and outside the streambed were later jointly sampled.

As to the gravels within the streambed, the parties agreed to have Laczkowski and an assistant run his 8-inch dredge in an area he had designated as "Bench A" for at least 2 hours and treat the gravels recovered "as he ordinarily would to maximize his recovery." Lyda was to be present

at all times to observe. The gravels recovered were to be concentrated to black sands and dried. Any visible gold would then be weighed at the site and returned to the black sands, placed in a bag in the presence of both Lyda and Laczkowski, and mailed for assaying (Tr. III-75 and III-76).

As to gravels outside the streambed, the parties had a more general agreement that face samples would be taken from two test holes (called the Hitachi Hole Nos. 1 and 2) previously excavated by Laczkowski on "Bench B." It was agreed that these samples would be processed using, at Laczkowski's option, either the Denver gold saver or his trommel (Tr. III-77 and III-78).

On August 21, 1984, Lyda and Laczkowski conducted the joint examination of the stream gravels, using the latter's 8-inch suction dredge as agreed. A total of 6.52 cubic yards of gravels were taken from the streambed in just over 2 hours of operating time (Exh. 24; Tr. IV-13). The sample (84-007) was concentrated and assayed as agreed (Tr. IV-12 through IV-19). The sam-ple contained only minute amounts of gold and silver. 4/

On September 25 or 26, 1984, Lyda examined the gravels found in Bench B." He took two one-half cubic yard samples from Hitachi Hole No. 1 (Exh. 26). Sample 84-013 was a vertical channel sample taken by Lyda from bedrock to a point 5 feet above bedrock. Lyda testified that he took no sample from above this point because the rocks above 5 feet were more "angular" or "subangular," showing a definite difference in "mode of deposition" (Tr. IV-22 and IV-61). The gravamen of this testimony is that it was Lyda's opinion the material above 5 feet was not placer material and would not contain gold. Sample 84-014 was taken from a stockpile of material removed from Hitachi Hole No. 1 (Tr. IV-22; IV-47 and IV-48). Both samples 84-013 and 84-014 were concentrated with the Denver "Goldsaver," dried, and fire assayed as agreed (Exh. 26). Sample 84-013, which was taken from the lower material, showed higher results than the general material taken from the stockpile. 5/

4/ At the hearing, Laczkowski complained that, shortly after commencing the dredging operation, he realized that the area he had selected had been previously worked, but that Lyda was not willing to allow him to select a new site. According to Laczkowski, he then operated the dredge in that area to demonstrate its capacity (Tr. IV-192 through IV-193). The results of the assay from this test tend to confirm his statement that the portion of the streambed he tested had previously been worked.

5/ We note two concerns raised by sample 84-014. First, based upon Lyda's testimony regarding his sampling method, it appears that the sample was not taken using the standard procedure for sampling dumps. See Handbook for Mineral Examiners at IV-4. Second, the stockpiled material, which had been removed from the pit, was found to contain mineral. Although no effort was made to determine whether the material sampled from the stockpile came from above or below the 5-foot level described above, it is more likely that it came from above the 5-foot level, considering the ratio of the materials
removed from the respective zones. This being the case, the fact that

October 16, 1984, Lyda and Laczkowski jointly sampled the Hitachi Hole No. 2 on Bench B (Tr. IV-23; Exh. 27). Again, two one-half cubic yard samples were taken. Sample 84-016 was excavated from the pit wall of this sample hole; it was a "channel cut in the nearly vertical face, from bedrock to the surface" (Exh. 27). Sample 84-017 was taken from the stockpile of material removed from this hole "from ground level to the top of the [stockpile]." Again, both samples were concentrated with the Denver "Goldsaver," dried, and fire assayed as agreed (Exh. 27).

The results of the Government and joint mineral sampling described above are summarized in the following table:

RESULTS OF GOVERNMENT AND JOINT MINERAL SAMPLING 6/

Sample No.	Date Taken	From	Gold Content (Oz./C.Yd.)	Silver Content (Oz./C.Yd.)
Evergreen #1	9-23-79	Stream*	.00456	.000940
Evergreen #2*	9-23-79	Stream*	.0260	.00431
Evergreen #3	9-23-79	Stream*	.0102	.00184
83-003	9-21-83	Bench	.00696	.00104
83-004	9-21-83	Stream	.0122	.00194
84-007*	8-21-84	Stream	.00231	.000378
84-013*	9-25-84	Bench	.0212	.00377
84-014*	9-26-84	Bench**	.00792	.00135
84-016*	10-16-84	Bench	.0108	.00184
84-017*	10-16-84	Bench**	.00319	.000380

* Joint sample.
** Samples of bench gravels taken from stockpile.

AVERAGE VALUES	Bench	.0100	.00188
	Stream	.0111	.00168
	Combined	.0105	.00178

Despite our concerns with some of these samples, discussed above, we accept them as indicative of the gold and silver content of the placer gravels found at the Evergreen placer claim. They were taken on different occasions at points designated by Laczkowski as his points of discovery, and he directly participated in taking most of them. Four of the samples were taken under methods agreed upon by the parties. Although Laczkowski has objected to the methodology used in taking some of the samples, we believe the samples to be representative of the materials tested.

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fn. 5 (continued)
sample 84-014 contained values would tend to disprove Lyda's conclusion that the material above the 5-foot level contained no values.
6/ For consistency, all test results have been converted to Troy ounces per cubic yard sampled, rounded to three significant digits. Although Laczkowski used the term "bench" to refer to gravels from both within and outside the streambed, we shall use that term to refer to gravels removed from outside the streambed.

Laczkowski's Samples

Laczkowski presented two samples showing content of gold in terms of gold found in a specific volume of gravel. A sample that Laczkowski estimated to be 28 cubic yards was removed by a backhoe from the stockpile created when digging Hitachi Hole No. 1 and passed through Laczkowski's trommel, yielding .725 Oz. of gold, or (using Laczkowski's estimate of the volume of the sample) .0259 Oz./Cub.Yd. (Tr. III-13). 7/ Another sample from Hitachi Hole No. 2 estimated to be 27 cubic yards was similarly processed, yielding .570 Oz. of gold, or .0211 Oz./Cub.Yd. (Tr. III-8 through III-10).

Laczkowski measured the volume of these samples by measuring the holes that were created in the stockpiles after the backhoe had dug out the sam-ples. He concluded that both holes were 25 cubic yards in volume, and added 2 and 3 cubic yards to this figure to account for boulders that were left over from the material that went through the trommel (Tr. III-7 through III-9). However, his testimony as to the dimensions of the holes in the pile was not clear, and he could not convincingly describe the methodology he used to calculate the volume. Thus, we are not satisfied that the volume of the gravels tested was accurately determined.

In the absence of convincing proof as to the dimensions both of the original stockpiles and the piles as they remained after the samples were removed, we regard Laczkowski's estimate as nothing more than a rough guess as to the volume collected. If the volume was not accurately determined, his assertions as the amount of gold per cubic yard are obviously not reli-able. Accordingly, we do not accept these samples as probative of the mineral values of the placer material.

Evidence of Recovery from Laczkowski's Mining Efforts Using the 4-Inch Dredge

Laczkowski presented evidence that, using a 4-inch suction dredge, he recovered gold from the claim in 1979 and 1980 and testified that he recovered gold from a high bench area outside the streambed by creating a pond and operating his 4-inch suction dredge in June 1981. He also pre-sented evidence showing that he recovered gold from the placer gravels within the streambed in the summers of 1981, 1982, and 1983. He claimed to have realized a profit from this recovery.

7/ Laczkowski made these determinations by weighing the material recovered. His statements regarding the amount of gold recovered are not totally accurate because he failed to account for the fineness of the placer gold. The fire assays of the samples clearly indicate that the placer gold is approximately .870 fine, with balance being silver. Thus, the sample Laczkowski believed to contain .725 oz. of gold actually contained .631 oz. of gold and .094 oz. of silver.

In the absence of clear proof, we are unpersuaded by Laczkowski's evidence that these amounts were actually recovered within the time described. Laczkowski was not a credible witness; his testimony was not convincingly corroborated either by other testimony or by documentary evidence. The documentary evidence in the record seems all to have been prepared at the same time and therefore does not stand as a credible contemporary record of his recovery from the claim.

The lack of reliability of Laczkowski's testimony is illustrated by his testimony that he processed 20 to 25 cubic yards per hour in his 1983 operations with his 8-inch dredge (Tr. II-203). However, other wellcorroborated, objective evidence casts serious doubt on Laczkowski's claim. Lyda testified that Laczkowski and his helper processed only 6.52 cubic yards with his 8-inch dredge in just over 2 hours during joint testing in August 1984 (Exh. 24). Laczkowski offered no explanation of why the processing rate at the joint testing was so much less than his assertion of the rate of production for August and September 1983.

Summary

In summary, we find only the Government and joint samples to be credible indications of mineral values on the Evergreen placer claim. Accordingly, for the purpose of determining whether a discovery has been made on the Evergreen claim, we shall adopt the average concentration as shown in the Government and joint samples, summarized above, i.e., .0105 Oz./C.Yd. for gold and .00178 Oz./C.Yd. for silver.

THE VALUE OF GOLD AND SILVER

The prices of gold and silver have varied substantially during the time that this contest has been pending. While no prudent person would expend time and money to develop a mine where it is clear that the price that could be obtained is obviously less than the cost of production, the question of prudence becomes more difficult when the mineral involved is subject to great price volatility. In Re Pacific Coast Molybdenum Co., 75 IBLA 16, 28, 90 I.D. 352, 359 (1983). The question of whether a mineral is "presently marketable at a profit" simply means that a mining claimant must show that, as a present fact, considering historic price and cost factors and assuming that they will continue, there is a reasonable likelihood of success that a paying mine can be developed. An elevated or depressed price for gold does not represent any relevant historic range and is essentially based on speculation or unsupported hope. Pacific Coast, 75 IBLA at 29, 90 I.D. at 360.

The average price of gold from 1979, when the Government first sampled the Evergreen claim, and 1986, when Judge Rampton issued his decision, was $403 per Troy Ounce. The average price for silver for this time period was approximately $10.50 per Troy Ounce. We shall use these average figures in evaluating the marketability of the minerals found on the claim. So doing takes into account, but discounts appropriately, the elevated short-term prices for these metals and represents accurately the relevant historical

range of prices. 8/ We note that using the value of gold at the time of this decision or the average price from 1979 to the present would substantially reduce the value of the mineral deposits on the claim.

VALUE OF THE MINERAL DEPOSITS FOUND ON THE CLAIM

Applying the above value of gold to the average concentrations of gold and silver found in the Government and joint samples yields a value of $4.25 per cubic yard for the gravels found on the Evergreen placer claim. The calculations are as follows:

.0105 Oz./C.Yd. gold x $ 403/Oz. = $ 4.23/C.Yd.
.00178 Oz./C.Yd. silver x $ 10.17/Oz. = $ 0.02/C.Yd.

Total = $ 4.25/C.Yd.

COMPARISON OF COSTS OF RECOVERY OF MINERALS AND VALUE OF MINERALS

There is agreement that the preferred method of recovery would vary for gravels inside the streambed and those found on benches outside the streambed. For the former, suction dredging would be the most efficient method of recovery (Exh. 12-8); for the latter, a backhoe and trommel or sluice box recovery would be preferred (Exhs. C-9, 12-6).

Removal of Gravels from the Bench Areas Outside the Streambed

Notwithstanding the problems we have noted with some of the samples of the bench areas, we find that a preponderance of the evidence shows that it would not be economical to remove gold and silver from the bench gravels. We are convinced that the cost of maintaining and operating both a backhoe to dig the gravels and a trommel to separate the minerals from the gravels, plus the value of labor for the two persons required for this operation, would exceed the value of the minerals removed (Exh. 12).

The Government presumed that 5 cubic yards of bench gravels could be processed per hour using a backhoe and trommel, a fact which was not controverted by Laczkowski. Using the figures developed above, this recovery would yield $21.25 in minerals per hour. Both parties adopted $6 per hour for the purpose of determining labor costs for mining. Processing the bench gravels would require two persons, one to operate the backhoe and one to

8/ Laczkowski assigned values to his gold of $800 and $900 per ounce (Exh. G; Tr. II-206). In support of these values, he provided sales receipts for various pieces of jewelry, mainly lockets, which display bits of free gold mined from the claim (Exh. G). Although we recognize that the added labor and materials to make the jewelry are of no great cost, the enhanced value of appellant's gold is due to its transformation into jewelry. This enhanced value, therefore, is properly attributable to appellant's jewelry business, not his mining. See United States v. Beckley, 66 IBLA 357, 364-365 (1982).

operate the trommel, for a total labor cost of $12. The Government conser-vatively set the cost of the backhoe machine at $6.88 per hour, with an additional $3 per hour for fuel. These costs alone exceed the recovery of minerals. In addition, the costs of purchasing and maintaining pipes, pumps, and the trommel must be included.

Laczkowski testified that he achieved a $1.20 per cubic yard profit from Hitachi Hole No. 1 (Tr. III-11) and a $3.05 per cubic yard profit from Hitachi Hole No. 2 (Tr. III-14), using a gold value of $341.75 per Oz. (Tr. III-10). According to Laczkowski, if the costs of the backhoe were included, the profit would be closer to $2 per cubic yard (Tr. III-20).

The Forest Service did not directly challenge this evidence of recovery. 9/ However, Laczkowski's assessment of the profitability of recovering gold from these gravels using the backhoe and trommel is nevertheless unconvincing. First, the value of the gold was not adjusted for fineness (see n. 7, supra), which would reduce the anticipated income from mining the gravels. Second, Laczkowski did not present credible evidence as to the rental cost of the backhoe, inclusion of which cost would increase the anticipated costs of mining.

It is thus our finding, based upon the evidence before us, that minerals cannot be mined, removed, and marketed from the bench areas outside the streambed at a profit. Accordingly, we conclude that a person of ordinary prudence would not be justified in the expenditure of his labor and means with a reasonable prospect of success in developing a valuable mine using a backhoe and trommel, and that no cognizable discovery has been made with respect to these gravels.

Use of the 8-Inch Dredge on Gravels Within the Streambed

As noted above, Laczkowski used both 4-inch and 8-inch suction dredges to remove placer material within the streambed. An 8-inch dredge requires two persons to operate and consumes approximately 1 gallon of gasoline per hour of operation (Exh. I). For the 4-inch dredge, approximately 1 hour of setup and cleanup time was required for every 3 hours of operation (Exhs. G and I; Tr. II-195 and II-96, II-203 through II-06). While the increased complexity of the 8-inch dredge might increase the time required for setup and cleanup, we shall nevertheless apply this more conservative ratio to determine the costs of operation. Thus, the labor costs for operating the 8-inch dredge, including setup and cleanup time, is $16.20 per hour.

Additionally, although there is no direct evidence as to the cost of the dredge or its life expectancy, depreciation of the 8-inch dredge is also a factor, and additional expenses such as wetsuits and facemasks should be

9/ As discussed above, there was uncertainty about the amount of gold per cubic yard recovered during this time. However, this uncertainty would not affect the validity of a methodology of comparing actual recovery and the costs incurred to determine the profitability of mining the bench gravels, presuming that such comparison were amply corroborated.

included as well. The record indicates that Laczkowski's 8-inch dredge failed several times. On one occasion, the engine (a Volkswagen automobile engine) was "completely blown" (Tr. IV-178). Clearly, there are substantial maintenance costs and additional capital expenditures associated with the 8-inch dredge which must be considered.

As discussed more fully below, the only credible evidence in the record sets the recovery rate of the 8-inch dredge at 3.26 cubic yards per hour. At this rate, the recovery amounts to less than $14 per hour. 10/ Thus, the record as a whole indicates that the costs of operating the 8-inch dredge would exceed the value of the gold and silver recovered. The labor and fuel costs of operating the 8-inch dredge, by themselves, exceed the recovery at 4 cubic yards per hour. Additionally, set up and break down time, depreciation, and maintenance costs for the dredge and significant repair costs for its engine should be included. Laczkowski presented no evidence that would convince us that any greater recovery is possible.

In the absence of convincing evidence establishing that operation of the 8-inch dredge could be expected to remove gold and silver from the placer gravels in a profitable manner, we conclude that minerals cannot be mined, removed, and marketed from the bench areas in the streambed at a profit with the 8-inch dredge. Accordingly, we hold that Laczkowski has not demonstrated that a person of ordinary prudence would be justified in the expenditure of his labor and means with a reasonable prospect of success in developing a valuable mine using the 8-inch dredge.

Use of the 4-Inch Dredge on Gravels Within the Streambed

It remains to determine whether the instream gravels can be profitably mined with a 4-inch dredge. According to FS' analysis, a 4-inch dredge requires only one person to operate and consumes approximately 1/2 gallon of gasoline per hour of operation (Exh. I). 11/ FS adopted a rate of $1.20 per gallon for gasoline, which was not challenged, thus resulting in a $.60 per hour cost for fuel.

10/ As discussed below, in the August 1984 joint sampling, the 8-inch dredge was operated for "just over 2 hours," during which 6.52 cubic yards of material were completely processed. Presuming that exactly 2 hours passed (which presumption favors claimant), only 3.26 cubic yards of material were fully processed per hour. At $4.25 per cubic yard, the expected recovery is $13.90 per hour, rounded off to three significant figures.

11/ There are several indications in the record that Laczkowski operated his 4-inch dredge with a partner. Nevertheless, for the purpose of analyzing the profitability of mining the instream gravel with the 4-inch dredge, we accept FS' conservative assumption that only one person is needed to operate it. So doing, reduces by half the cost of labor and, thus, benefits Laczkowski.

According to Laczkowski's evidence, for every 3 hours he operated the 4-inch dredge in June 1981, he spent 1 hour in setup/cleanup time. For every 2.5 hours he operating the dredge in the summer of 1983, he spent 1 hour in setup/cleanup. Adopting the former, more conservative ratio of operation to setup/cleanup times would thus add one-third hour for setup/ cleanup time to each hour of operation. Both parties adopted $6 per hour for the purpose of determining labor costs of suction dredging. Thus, each hour of operation of the 4-inch dredge cost $8 in labor.

Additionally, the costs of the dredge should be factored into the analysis, and additional expenses for wetsuit and facemask (valued at $250 by the Government) and for the 4-inch dredge (valued at $300 per year) must also be included. In the absence of any evidence disputing these figures, we shall adopt them as annual expenses of mining. Thus, there is an addi-tional annual cost of $550 for the dredge, wetsuit, and facemask. The record shows that Laczkowski operated his dredge for 568 hours between 1981 and 1983, for an average of 189 hours per year. This cost is $2.91 per hour.

Lyda referred at the hearing to other mining expenses, to-wit: "move-in, move-out, set-up, and reclamation costs." Evidence of set-up and break-down costs is in the record, and these costs have been included in our analysis. Lyda did not present any evidence concerning move-in, move-out, or set-up costs and admitted that "a more detailed analysis" would be necessary to consider them (Tr. III-42 and III-43). In the absence of evidence on the record concerning these costs, they are not properly included in the comparison of costs and expenses.

The total cost demonstrated in the record for removing gravel from the streambed with the 4-inch dredge is $11.50 per hour (rounded to three significant figures).

As noted above, evidence as to the capacity of the 4-inch dredge to process placer gravel varied. Lyda estimated 2 cubic yards per hour of operation for a 5-inch dredge (Exh. 12, p.8). Laczkowski estimated 7 cubic yards per hour (Tr. II-203). A witness for Laczkowski estimated the rate at 14 cubic yards per hour (Tr. I-85), and the manufacturer rated the dredge at 12 cubic yards per hour.

It must be remembered that the relevant factor is not how much material can be passed through a dredge in an hour. Rather, it is how much material can be dredged using the 4-inch dredge, concentrated, and have all component gold and black sands removed in an hour, in the particular circumstances present on the Evergreen claim. 12/ Neither party presented any direct evi-dence on this question. There is, nevertheless, empirical data concerning

12/ The calculation of the rated capacity of a dredge, expressed in cubic yards per hour, probably assumes optimum conditions and continuous processing of material. However, if conditions exist which would cause an operator to cease suction activity during any portion of the hour, the actual rate of recovery would be less than the rated capacity. Such conditions

15).recoveries using 3-inch and 8-inch dredges that indicates that the recovery rate for the 4-inch dredge on the Evergreen claim cannot reasonably be expected to be adequate to meet the above-determined costs of operating the dredge.

Specifically, in the August 1984 joint sampling, the 8-inch dredge completely processed only 6.52 cubic yards of gravel in just over 2 hours of operation. This time included the entire process of extracting gold from the stream gravels, including dredging, concentrating, and removal of gold and black sands. This 8-inch dredge sampling is the only extended period during which a dredge was operated on the claim while both the Government and Laczkowski were in attendance. 13/

In September 1983 a sample was taken by Lyda using a 3-inch dredge which processed 1/4 cubic yard in 15 minutes, for a processing rate of only 1 cubic yard per hour. Further, the 15 minutes in question included only time when the dredge was actually operating; time when the dredge was not operating because the hose was plugged was excluded (Exh. 12). Thus, the actual amount processed completely to recovery in an hour using the 3-inch dredge would have been even less than 1 cubic yard.

In the absence of direct evidence as the recovery rate for the 4-inch dredge, the evidence of the amount of material that can be completely processed using the 8-inch and 3-inch dredges is also the most probative to determine how much material may be completely processed using the 4-inch dredge. The rated capacity of the 8-inch dredge is 40 cubic yards per hour, the rated capacity of the 4-inch dredge is 12 cubic yards per hour, and the rated capacity of the 3-inch dredge is 8 cubic yards per hour (Exh. H). By dividing the rated capacity of 4-inch dredge by the rated capacities of both the 3-inch and 8-inch dredges and applying the resulting ratios to the established recovery rates for the 3-inch and 8-inch dredges, the figure for the recovery rate for the 4-inch dredge may be estimated at no

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fn. 12 (continued)
would include the presence of cobbles with a greater diameter than the suction tube (thus causing delay while the cobbles are moved) or discon-tinuous gravel beds containing only small amounts of gravel (thus causing delay while the dredge is moved). The record suggests that both conditions are present on the Evergreen claim.

13/ For the Evergreen No. 2 sample, Laczkowski and a friend operated the 4-inch dredge for 15 minutes, and Mineral Examiner Boswell testified that "about" one cubic yard of material was processed. However, this testimony was not based on actual measurement of the volume processed, but on Boswell's presumption that Laczkowski could process 4 to 5 cubic yards per hour: "For that size dredge under those conditions my best evidence it would run about four or five cubic yard an hour. So I estimated that he ran a cubic yard of material through there in the 15 minutes he was actually operating" (Tr. I-15).

more than 1.5 cubic yards per hour. 14/ At a value of $4.25 per cubic yard, the break-even point for profitably mining gravels with the 4-inch suction dredge would be 2.71 cubic yards per hour.

As the amount of the reasonably anticipated recovery does not exceed the amount of the reasonably expected costs, the record shows that gold may not be profitably recovered from the streambed gravels using the 4-inch dredge.

CONCLUSION

Having determined that the evidence, as a whole, fails to establish that gold and silver may be profitably removed from the Evergreen Placer Claim, either by backhoe and trommel or by suction dredging, we conclude that the claim was properly held void for lack of discovery.

Therefore, pursuant to the authority delegated to the Board of Land Appeals by the Secretary of the Interior, 43 CFR 4.1, the decision appealed from is affirmed.

David L. Hughes
Administrative Judge

14/ There can be no doubt that the 4-inch dredge cannot move as much gravel as the 8-inch dredge. Since the diameter of the 8-inch dredge is twice that of the 4-inch dredge, it might be expected that it could process approximately four times more material in the same amount of time. However, there are many other factors involved, including minimum water velocity through the pipe required to keep placer material suspended in the water. The manufacturer's rating of the capacities of the dredges should take such additional factors into account, and a comparison of rated capacities is therefore instructive.

According to the rated capacities, the 8-inch dredge (40 cubic yards per hour) is capable of processing 3.33 times more material than the 4-inch dredge (12 cubic yards per hour). Applying the inverse of this factor (that is, 3/10) to the demonstrated recovery rate for the 8-inch dredge (3.26 cubic yards per hour) establishes a rate of a little less than 1 cubic yard per hour (0.978 cubic yards per hour), far below the break even point.

Similarly, according to the rated capacities, the 4-inch dredge (12 cubic yards per hour) is capable of processing 1.5 times more material than the 3-inch dredge (8 cubic yards per hour). Applying this factor to the demonstrated recovery rate for the 3-inch dredge (1 cubic yard per hour) establishes a rate of 1.5 cubic yards per hour. This rate is also below what is necessary to break even.

We note that FS had presumed a recovery rate of 2 cubic yards per hour in the analysis in its mineral report (Exh. 12). Even at this evidently liberal rate, the claim could not be profitably mined.

ADMINISTRATIVE JUDGE MULLEN CONCURRING IN THE RESULT:

I join with Judge Hughes in finding the claim to be invalid for lack of a discovery, but do so with some reluctance. This reluctance is caused in no small part by my reaction to the conduct of the Government mineral examination.

As should be noted, Judge Hughes' opinion contains no reference to the quantity of gravel located on the claim. There are two good reasons for this fact.

First, the evidence presented by the mineral examiners was, at most, superficial. The stated reason for the failure to conduct a satisfactory quantitative analysis was that the examiner had no obligation to do the work. This is true in one respect. The Government does not have the burden of making a prima facie case for all aspects of the discovery, and thus can completely ignore the size of the mineral deposit if it chooses. However, when the Government chooses to place the size of the mineral deposit in issue, the Government case should be supported by evidence which has been compiled using acceptable engineering procedures. It was not. 1/ An estimate of the quantity of stream gravel made by walking the shoreline and guessing the depth of the deposit is hardly sufficient to support a prima facie case. The record contains no professional engineering calculation of the estimated size of the deposit.

The second reason for rejecting all evidence regarding the size of the deposit is the judicial error committed when advising counsel that each claim must stand on its own, thus discouraging testimony regarding gravel located on the adjoining claim owned by appellant. As noted in New York Mines, 105 IBLA 171, 191, 95 I.D. 223, 234 (1988):

> the concept of "mine" development can contemplate operations on a series of contiguous claims, and hence, assuming exposure of a
> valuable locatable mineral on each claim, the claims may be considered as a group when determining whether a person of ordinary prudence would be justified in the further expenditure of labor and capital with a reasonable prospect of developing a paying mine.

While I find judicial error, I also find that this error was not prejudicial to the appellant.

The case did not turn on the quantity of mineable gravel present on this and the adjacent claim, but upon the ability to mine that deposit. A

1/ One of the mineral examiners testified that it was his professional opinion that appellant's "eyeball" estimate of the size of a spoils pile left after processing bench gravel was not sufficiently accurate to determine the number of yards of material treated. I find little difference between the way appellant "compiled" his estimate and that used by the Government's witness when estimating the amount of stream gravel.

finding in favor of appellant on the issue of sufficient quantity does not affect the outcome of the case. If the "quantity" of auriferous gravel on the claims is assumed to be sufficient, the evidence regarding the contained values and operating costs are such that it is my opinion that the preponderance of the evidence supports a conclusion that the Evergreen claim does not contain a discovery.

The evidence regarding the amount of gold contained in the gravel was surprisingly consistent, and for that reason we were able to make a reasonable assumption that the unworked gravel could be expected to contain approximately 0.013 ounces of .870 fine gold. Appellant presented testimony regarding his recovery from the claim during the years preceding the contest hearing. This evidence was in the form of the number of ounces of gold recovered and the number of hours spent recovering the gold. There is no evidence to the contrary, and I have no reason to doubt appellant's testimony regarding the amount of gold recovered. However, each time appellant was afforded an opportunity to substantiate his testimony regarding the rate of recovery, he was unable to do so. He was afforded a number of opportunities. The lead opinion sets out the results of the onsite demon-strations in detail.

Having nothing to substantiate appellant's statements regarding the number of hours spent recovering the gold, we were left with recovery rates for the various pieces of machinery which were substantiated. When compar-ing the costs of operating the equipment to the recovery rate, we were left with a net operating loss, even when the assumed dredge depreciation costs added by Judge Hughes are removed. For this reason, I concur with the result.

I do not know why the suction dredges could not be operated at a rate closer to their designed capacity. However, the testimony of the various parties who operated the dredges, including that of the appellant, leads me to believe that it may have something to do with the nature of the gravel deposit. It could be the size and number of cobbles which tended to clog the hoses, or the fact that the deposit is thin, requiring constant movement from one area to another. It could well have been inefficiency on the part of the operators. Be it one of these factors, or a combination of all of them, the record contains no substantiated proof that the mineral deposit located on the Evergreen claim can be mined at a profit using either the 8-inch or the 4-inch suction dredge.

Based upon the record, I find the Government has established a prima facie case that the mineral deposit on the Evergreen claim does not contain placer material having sufficient values to support a discovery. The appel-lant did not present sufficient evidence to justify a conclusion that the weight of the evidence supported the opposite conclusion.

R. W. Mullen
Administrative Judge